



**ENERGY SYSTEMS LABORATORY**

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November 25, 2014

Mr. Dub Taylor, Director  
State Energy Conservation Office (SECO)  
Texas Comptroller of Public Accounts  
111 East 17th Street, #1118  
Austin, Texas 78774

**RE: ESL's final recommendation regarding the 2015 IRC (Chapter 11) and the 2015 IECC, based on a stringency analysis and the review of public comments.**

Dear Mr. Taylor:

In accordance with the Health and Safety Code Section 388.003, as amended, the Energy Systems Laboratory (Laboratory), as part of the rule-making process, has reviewed all comments received during the July 4-August 4, 2014 period, through the State Energy Conservation Office (SECO), and has completed the technical analysis regarding the comparison of the stringency and environmental impact of Chapter 11, 2015 International Residential Code (IRC) and the 2015 International Energy Conservation Code (IECC) versus the current Texas Building Energy Performance Standards (TBEPS), based on Chapter 11 of the 2009 IRC and the 2009 IECC.

**The Laboratory's Final Recommendations:**

Single-Family Residential Construction

The Laboratory recommends that SECO adopt Chapter 11 of the 2015 IRC, as published, as the new Texas Building Energy Performance Standards (TBEPS) for all residential construction, one- and two-family residences of three stories or less above grade.

Commercial and Residential Construction

The Laboratory recommends that SECO adopt the 2015 IECC, as published, as the new Texas Building Energy Performance Standards (TBEPS) for commercial, industrial and residential buildings over three stories (including R2, R3 and R4 residential buildings and excluding one- and two-family residences of three stories or less above grade).

### **Summary of Comments Received:**

The Laboratory has considered all 2,314 comments collected by SECO from both individuals and large constituencies during the July 4-August 4, 2014 comment period. The comments include:

- 1,742 comments in favor of the adoption of the 2015 code.
- 539 comments in support of the adoption of the 2012 code. After the comment deadline, the person responsible for the initial call for the 539 letters informed SECO that the letters were meant to support the adoption of the 2015 code. However, we cannot verify the intentions of 539 individual submitters.
- 13 comments that advocate the adoption of 2015 IRC Appendix U: Solar Energy.
- 17 comments that support taking no action. Several of those represented large constituencies.
- 3 other comments, which include one (1) product endorsement and two (2) supporting documentation.

The Texas Association of Builders and eleven (11) regional builders associations recommended taking no action and remaining with the current TBEPS, and expressed concerns for increased construction costs without a reasonable payback period that would result from the adoption of the 2015 code. The analysis of this comment falls outside the Laboratory's legislative responsibilities, which is to determine the stringency of the energy efficiency provisions in the codes and the impact on air quality.

The Coalition for Fair Energy Codes, which is comprised of five wood and forestry trade associations, recommended taking no action and remaining with the current TBEPS, and expressed concerns regarding the economic impact and structural limitations of the 2015 code. Again, this comment falls outside the Laboratory's legislative responsibilities to determine the stringency of the energy efficiency provisions in the codes and the impact on air quality.

Among the seventeen (17) comments that support no action, two (2) comments included amendment packages for the 2015 code. The Laboratory analyzed the stringency of each individual amendment by comparing a 2015 code-compliant base-case house (with the suggested amendment) to the current Texas Building Energy Performance Standards (TBEPS) code-compliant base-case house. One (1) comment with an amendment package, representing a large constituency, included fourteen (14) proposed amendments to the 2015 code. One (1) of the fourteen (14) proposed amendments incorporates several components that were also submitted as individual amendments, and were analyzed individually. Six (6) of the suggested amendments were found to be as stringent as the current TBEPS, four (4) were found as stringent as the current TBEPS pending certain conditions, two (2) amendments were not relevant to Texas climate zones, and one (1) amendment met the annual energy cost performance requirement of the current TBEPS. The other comment with an amendment package included three (3) proposed amendments. Two (2) of the suggested amendments were found to be as stringent as the current TBEPS. The stringency of the third proposed amendment was undetermined, as insufficient information was provided for analysis.

Please see the attachments for a synopsis of all comments, the stringency analysis of the suggested amendments, and the complete list of comments and commenters.

### **Summary of the Technical Stringency Analysis of the 2015 code vs. the Current TBEPS:**

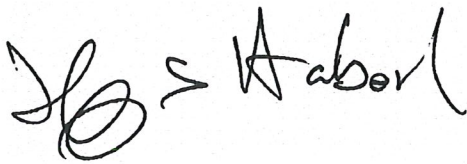
The analysis has determined that the residential provisions of the 2015 IECC are more stringent than the current Texas Building Energy Performance Standards (TBEPS). The residential provisions in the 2015 IECC are identical to Chapter 11 of the 2015 International Residential Code (2015 IRC).

In the commercial provisions of the 2015 IECC, there are three paths to obtain compliance. The first path is to comply with the requirements of the ASHRAE Standard 90.1-2013. The second and third paths, prescriptive and performance, are to comply with the requirements put forth in Chapter 4 of the 2015 IECC, which includes the commercial provisions. The Laboratory's analysis has determined that the commercial provisions of the 2015 IECC are more stringent than the current Texas Building Energy Performance Standards (TBEPS) for all three paths.

### **Additional Recommendations:**

The Laboratory recommends that SECO begin educating, training, and providing technical assistance for designers, builders, subcontractors and enforcement officials to enable statewide compliance immediately upon adoption.

Sincerely,



Jeff S. Haberl, Ph.D., P.E., inactive  
Associate Director



Bahman L. Yazdani, P.E.  
Associate Director

Copy: Alison Nathan, State Energy Conservation Office  
Eddy Trevino, P.E., CEM, State Energy Conservation Office  
Fred Yebra, P.E., State Energy Conservation Office  
David E. Claridge, Ph.D., P.E., Energy Systems Laboratory

### **List of Attachments:**

- A. Synopsis of All Comments Received by SECO
- B. Complete List of Comments and Roster of Commenters
- C. Stringency Analysis of Suggested Amendments
- D. Summary of the Laboratory's Stringency Comparison Analysis: TBEPS (based on Chapter 11, 2009 IRC & 2009 IECC) Vs. 2015 Codes
- E. List of References